II. AMENDMENT TO THE SPECIFICATION

1. Replace the section entitled "Brief Description of the Drawings" on Page 4 / line 13--26 with the following replacement section:

BRIEF DESCRIPTION OF THE DRAWINGS

This invention is pointed out with particularity in the appended claims. Other features and benefits of the invention can be more clearly understood with reference to the specification and the accompanying drawings in which:

Figs. 1A-1B are schematic diagrams of cross-sections of the sequential processing reaction vessel of the present invention in a sealed (Fig. 1A) and open (Fig. 1B) position;

Fig. 2 is a schematic diagram of the laminated membrane filter assembly of the present invention;

Fig. 3 is a schematic diagram of the liquid spray attachment for the SPRV of the present invention;

Figs. 4A-4C are schematic diagrams of an SPRV carousel assembly (Fig. 4A), top plate (Fig. 4B) and bottom plate (Fig. 4C); ~~and~~

~~Fig. 5 shows sequentially extracted elemental concentrations in treatment solutions 1 through 9 for two marine sediment samples.~~

Figs. 5A-5E show sequentially extracted elemental concentraions in treatment solution 1 through 9 for a Panama Basin sediment trap sample; and

Figs. 6A-6B show sequentially extracted elemental concentraions in treatment solution 1 through 9 for a Southern Ocean deep ocean surface sediment sample.

2. Replace the paragraph on Page 6 / Line 13-23 with the following replacement paragraph:

A schematic of the SPRV 100 is provided in Figs. 1A and 1B. As shown in Fig. 1A, the SPRV 100 comprises a top valve 105, a top securing collar 110, a top cover 115, a top cover O-ring 120, an exterior jacket 125, an interior liner 130, a membrane filter 135, a filter support frit 140, a filter holder 145, a filter holder o-ring 150, a bottom securing ring 155, a bottom valve

160 and alignment pins 165. While Figs. 1A and 1B show only a single top valve 105, the top cover 115 may be equipped with additional auxiliary ports 116a, 116b for temperature or pressure probes used for measuring reaction chamber conditions. The interior volume formed by the top cover 115, interior liner 130 and filter holder 145 of the SPRV is referred to herein as the reaction chamber. In one embodiment, the exterior dimensions of the SPRV 100 are 16cm high with a 6.5cm diameter and a reaction chamber volume of 50ml.

3. Replace the paragraph on Page 9 / Line 26 - Page 10 / line 13 with the following replacement paragraph:

While the SPRV 100 may be heated with conventional convection or radiant heat sources, in a preferred embodiment, the reaction vessel 100 is configured for heating in a microwave oven equipped with reaction chamber sensors for continuous monitoring of vessel 100 temperatures and pressures. In a preferred embodiment, the vessel 100 is heated in a CEM MDS-2100 programmable microwave oven (CEM Corp., North Carolina). The MDS-2100 is equipped with an inboard pressure control system to monitor and control pressure conditions inside the SPRV 100 reaction chamber. A pressure sensing line is fed through either the top valve 105 port or an auxiliary port 116a on the top cover 115. Pressure is measured by a pressure transducer and displayed graphically and digitally on an LCD display. The MDS-2100 oven is also equipped with a fiber optic probe used to monitor and control SPRV reaction chamber temperature. A microwave transparent fiber optic temperature probe is fed through either a top valve 105 port or an auxiliary port 116b on the top cover 115. The temperature sensor is a phosphor which emits fluorescent light after excitation by an optical source. The decay rate of fluorescent emission is temperature dependent and provides for accurate and precise determination of the vessel 100 temperature. Details of the pressure and temperature sensor are provided in the MDS-2100 Operation Manual (CEM Corp., Matthews, NC, 1994).

III. AMENDMENT TO THE DRAWINGS

Replace informal drawings Figs. 1A-1B, Fig. 2, Fig.3, Figs. 4A-4C, and Fig. 5 with formal drawings Figs. 1A--1B, Fig. 2, Fig. 3, Figs. 4A-4C, Figs. 5A-5E and Figs. 6A-6E provided in the enclosed labeled Replacement Sheets 1-9.